

## Arduino MKR WAN 1300 (LoRa connectivity)



MKR WAN 1300 is a powerful board that combines the functionality of the MKR Zero and LoRa connectivity. It is the ideal solution for makers wanting to design IoT projects with minimal previous experience in networking having a low power device.

Arduino MKR WAN 1300 has been designed to offer a practical and cost effective solution for makers seeking to add Lo-Ra connectivity to their projects with minimal previous experience in networking. It is based on the Atmel SAMD21 and a Murata CMWX1ZZABZ Lo-Ra module.

The design includes the ability to power the board using two 1.5V AA or AAA batteries or external 5V. Switching from one source to the other is done automatically. A good 32 bit computational power similar to the MKR ZERO board, the usual rich set of I/O interfaces, low power Lo-Ra communication and the ease of use of the Arduino Software (IDE) for code development and programming. All these features make this board the preferred choice for the emerging IoT battery-powered projects in a compact form factor. The USB port can be used to supply power (5V) to the board. The Arduino MKR WAN 1300 is able to run with or without the batteries connected and has limited power consumption.

Warning: Unlike most Arduino & Genuino boards, the MKR WAN 1300 runs at 3.3V. The maximum voltage that the I/O pins can tolerate is 3.3V. Applying voltages higher than 3.3V to any I/O pin could damage the board. While output to 5V digital devices is possible, bidirectional communication with 5V devices needs proper level shifting.

For information on getting started see <http://arduino.cc/en/Guide/HomePage>.

Microcontroller	SAMD21 Cortex-M0+ 32bit low power ARM MCU
Board power supply (USB/VIN)	5V
Supported batteries (not supplied)	2x AA or AAA
Circuit operating voltage	3.3V
Digital I/O pins	8
PWM Pins	12 (0, 1, 2, 3, 4, 5, 6, 7, 8, 10, A3 - or 18 -, A4 -or 19)
UART	1
SPI	1
I2C	1
Analog input pins	7 (ADC 8/10/12 bit)
Analog output pins	1 (DAC 10 bit)
External interrupts	8 (0, 1, 4, 5, 6, 7, 8, A1 -or 16-, A2 - or 17)
DC Current per I/O pin	7 mA
Flash memory	256 KB
SRAM	32 KB
EEPROM	no
Clock speed	32.768 kHz (RTC), 48 MHz
LEDs	6
Antenna power	2dB
Carrier frequency	433/868/915 MHz
Working region	EU/US
Length	67.64 mm
Width	25 mm
Weight	32 gr.